

09/03/2008

Application No. 10/526,392
Amendment dated June 25, 2008
After Final Office Action of March 25, 2008

Docket No.: 3884-0123PUS1

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A head-extended pile for supporting the load of a structure, wherein the pile has a reinforcement part provided at the lower or front end of the pile and a reinforcing part provided at the upper or rear end of the pile, the reinforcement ~~part~~ parts having a diameter larger than that of the pile whereby the front and rear end supporting force of the pile is increased, said reinforcement ~~part~~ parts comprising:

~~a reinforcing member~~ reinforcing members vertically extending from ~~the end~~ opposite ends of the pile, said reinforcing ~~member having a lowermost portion~~ members having respective lowermost and uppermost portions with a larger dimension than that of the pile and a transitional portion which extends from the outer circumference of the pile to said lowermost ~~portion~~ and uppermost portions, wherein the reinforcing parts are integral or fixedly attached to the pile.

Claims 2-3 (Cancelled)

4. (Previously Presented) The pile as set forth in claim 1, wherein the transitional portion has a configuration which comprises a plurality of triangular members disposed around the pile while being spaced a prescribed distance from each other.

5. (Previously Presented) The pile as set forth in claim 1, wherein the reinforcement part comprises:

an iron disk having a prescribed depth and an inner diameter equal to the diameter of a cylindrical pile part;

a reinforcing disk attached to the iron disk, the reinforcing disk having a diameter larger than that of the iron disk; and

reinforcing wings attached to the outer circumference of the iron disk and to the upper surface of the reinforcing disk, wherein the reinforcing disk has a water-discharging hole formed through the center of the reinforcing disk.

Claim 6 (Cancelled)

7. (Withdrawn) A constructing method of introducing a head-extended pile in the ground composed of collapsible soil when the ground is bored, comprising the steps of:

selecting a pile, preparing and checking a pile driving operation, and removing obstructions (S10);

inspecting the ground to be constructed, reinforcing the ground, and installing a pile-driving machine (S20);

checking perpendicularity of a casing or a screw auger and a reader at the front and at the side to fix the position of the casing (S30);

checking a soil layer where the pile can be driven on the basis of excavation, a geological survey report, used current of an auger motor, the discharged amount of soil, and a trial pile driving operation so that the excavation is carried out by means of the casing and the screw auger (S40);

mixing water and cement by means of an exclusive mixer to obtain cement paste (S50);

injecting cement paste at high pressure after the screw auger is withdrawn (S60);

penetrating the screw auger again to stir the cement paste and treat the slime (S70);

slowly withdrawing the screw auger (S80);

erecting the head-extended pile so that the head-extended pile is penetrated by means of its own weight (S90);

slowly withdrawing the casing while the upper end of the pile is fixed by means of the screw auger (S100); and

driving the head-extended pile so that the pile can be penetrated (S110).

8. (Withdrawn) A constructing method of a head-extended pile in the ground composed of uncollapsible soil when the ground is bored, comprising the steps of:

selecting a pile, preparing and checking a pile driving operation, and removing obstructions (S200);

inspecting the ground to be constructed, reinforcing the ground, and installing a pile-driving machine (S210);

checking perpendicularity of a screw auger and a reader at the front and at the side to fix the position of the screw auger (S220);

checking a soil layer where the pile can be driven on the basis of excavation, a geological survey report, used current of an auger motor, the discharged amount of soil, and a trial pile driving operation so that the excavation is carried out by means of the screw auger (S230);

mixing water and cement by means of an exclusive mixer to obtain cement paste (S240);

withdrawing the screw auger (S250);

injecting the cement paste at high pressure (S260);

penetrating the screw auger again to stir the cement paste and treat the slime (S270);
erecting the head-extended pile so that the pile is penetrated by means of its own weight
(S280); and
driving the head-extended pile so that the pile can be penetrated (S290).

9. (Withdrawn) The constructing method of a head-extended pile as set forth in claim 7, wherein the head-extended pile is directly driven so that the pile is penetrated in said step (S110 or S290), driving the head-extended pile.

10. (Withdrawn) The constructing method of a head-extended pile as set forth in claim 7, wherein the head-extended pile is inserted and then directly driven or securely located after said step (S40 or S230) excavating the soil layer.

11. (Withdrawn) The constructing method of a head-extended pile as set forth in claim 7, wherein the head-extended pile is directly penetrated while the head-extended pile is inserted in any one of a steel tube, a concrete tube, a synthetic resin tube, and a wood tube in said step (S90 or S270) penetrating the head-extended pile.

12. (Withdrawn) The constructing method of a head-extended pile as set forth in claim 7, wherein the head-extended pile is penetrated through the use of hydraulic pressure, pneumatic pressure, or pressure generated by chemical means in said step (S90 or S270) penetrating the head-extended pile.

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Claims 13-14 (Cancelled)